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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/534,207	03/24/2000	Makoto Kashiwaya	Q55902	2981

7590 05/14/2002

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EXAMINER	
DEO, DUY VU	

ART UNIT	PAPER NUMBER
1765	8

DATE MAILED: 05/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/534,207	KASHIWAYA ET AL.	
	Examiner	Art Unit	
	DuyVu n Deo	1765	

-- The MAILING DATE of this communication appears on the cover sheet with th correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki (US 4,816,113).

Yamazaki teaches a method for forming a carbon layer by vapor phase deposition comprising steps of: cleaning the apparatus by removing undesirable products such as carbon deposition from the inside of the chamber (in between the carbon deposition or this would means the cleaning is performed before another deposition); the chamber is then evacuated to $1x10^{-6}$Torr or a higher vacuum condition; starting a film deposition process of the carbon (col. 5, line 41-col. 6, line 2; col. 3, line 41-col. 4, line 2). Unlike claimed invention, Yamazaki doesn't describe adjusting the content of particles having a particle size of 0.5 um or more to 1000 particles/ft^3/min or less (such as 500 or 100 particles/ft^3/min). However, his steps of cleaning and evacuation the chamber to a high vacuum condition would reduce any undesirable products including particles having a particle size of 0.5 um or more to 1000 particles/ft^3/min or less (such as claimed 500 or 100 particles/ft^3/min).

Referring to claim 3, the application of deposition of carbon layer as a protective layer on a thermal head performing thermal recording is known to one skill in the art as described in the background of the specification.

Referring to claims 5 and 6, forming a thermal head having a 3 protective layers including a lower, intermediate, and carbon layer are well known to one skill in the art as described in page 8 of the specification. The thickness of each layer would have been obvious to determined through test runs in order to provide optimum thickness of each layer for protection of the thermal head with an anticipation of an expected result.

Response to Arguments

3. Applicant's arguments filed 2/1/02 have been fully considered but they are not persuasive.

Referring to applicant's argument that there is no evidence or reasoning tending to show inherency; there is no access to laboratory at the Office for examiner to carrying out the actual process; therefore, since the pressure of the chamber is similar to that of the claimed invention, it would provide similar result, such as reduce any undesirable products including particles having a particle size of 0.5 um or more to 1000 particles/ft3/min or less. Furthermore, applicant would have access to the laboratory to carry out the process, burden is on the applicant to show that under processing conditions described above, including the P of $1x10^{-6}$Torr or a higher vacuum condition, the process doesn't provide a result of reducing particles having a particle size of 0.5 um or more to 1000 particles/ft3/min or less. Even if it is not the case, it would be obvious to one of ordinary skill in the art to have a clean chamber before depositing any layer; therefore,

one skill in the art would remove any foreign particles or contaminations in the chamber so that the layer being deposited is not contaminated with other particles, or chemicals.

In response to applicant's argument that the particles are reduced in order to minimize the pinholes and cracks in, the thermal recording head protective coating, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Concerning applicant's providing of the distinctions between applicant and applied prior art, none of these points are in the claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DuyVu n Deo whose telephone number is 703-305-0515.

DVD
May 10, 2002

BENJAMIN L. UTECH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700